

**Multidisciplinary PhD Program in Biomedical Science  
Graduate School of Biomedical Sciences - Newark Campus**

**Candidacy Examination for Entry into Thesis Phase**

Before progressing to the thesis phase of their doctoral studies, all students must pass a Candidacy Examination (formerly referred to as Qualifying Examination). In order to qualify for thesis phase, doctoral students must also complete 40 credits of combined coursework and research, including the specific requirements defined by their program and/or track. They must have an overall GPA of 3.0 or greater. Approved transfer credits will count towards the required 40 credits.

The candidacy examination is expected to occur in April/May of the student's second year. Each track will set a deadline date for submission of the written component by all students in the track. The tracks in the Multidisciplinary PhD Program in Biomedical Science will follow a consistent candidacy examination format. The candidacy examination will incorporate the Thesis Proposal, which will provide a background, rationale and plan of experimental design that is to be pursued in the intended mentor's laboratory. This combination of qualifying examination and thesis proposal has several advantages over the current practice of separating these steps:

- Increased efficiency because students do not prepare two separate research proposals
- A more robust and independently developed thesis proposal
- Earlier transition to full-time thesis research
- Thesis proposal can be utilized as the foundation of an individual fellowship application

The candidacy examination will follow the format below.

**First part: a research proposal** using the format of a research grant, with Specific Aims, Background & Significance, Preliminary Data, and Experimental Design. The text of the written proposal should be a maximum of 25 pages, double-spaced, excluding references. There should also be a one-page (double-spaced) abstract. The background section is expected to be more extensive than a current NIH-style grant, and show knowledge of the breadth of literature underlying the proposed research. Writing this section will help the student develop a comprehensive background for their thesis work. The preliminary data section should include only original data generated by the student. Work from others in the lab or from published papers supporting the proposed hypothesis/aims can be included in the background section (with appropriate attribution). The specific aims of the project must include at least one original major aim that is not already encompassed in the mentor's or other faculty members' current or pending research grants, and was not developed as part of the student's coursework (e.g. the Grant Writing Course). Prior to writing the Candidacy Examination proposal, the student must develop a 1-2 page outline, including a brief rationale, the hypothesis, a list of specific aims, topics to be covered in the background section and an overview of the experimental approaches for each aim. This will be submitted to the class advisor and/or track director, who after consultation with mentor, may provide feedback. The subsequent preparation of the full proposal should proceed with no further faculty input until the document is submitted to the Candidacy Examination Committee. The proposal must also include a section on relative contributions to the ideas and writing, which is to be signed by the student and the prospective mentor. The student is expected to spend no more than 3-4 weeks writing the thesis proposal, which should be undertaken during March/April of their second year.

**Second part: an oral presentation** by the student to their Candidacy Examination Committee once the committee considers the written proposal acceptable (by majority vote if necessary). During this presentation the student will be expected to describe and explain their proposed research project and answer questions from the committee members. The committee is charged

with gauging the competency and preparedness of the student to undertake research work at a doctoral level. The oral exam should be completed during April/May of the second year.

The Candidacy Examination Committee for each student will be appointed by the Track Oversight Committee. It will have 5 voting members, including the Class Advisor or her/his designee, who will chair the examination committee. This will help to ensure consistency across examinations. In case a student candidate is planning to work in the laboratory of their Class Advisor, the track Director will appoint an alternate who may be the advisor from a different entering class. The remaining 4 members of the examination committee should have appropriate expertise and experience relevant to the student's chosen subject matter. At least one member should be from outside of the mentor's home department or center/institute. The student's prospective mentor may attend the oral examination, but cannot participate in the questions, discussion or voting. However, the mentor can request a break, with the student temporarily excused from the meeting, if he/she wishes to convey a concern or provide key information to the examination committee. It is expected that a pass in the Candidacy Examination should be by unanimous consent of all voting members of the committee. The committee can also recommend a conditional pass, setting specific tasks that the candidate must complete, which can include a repeat of the oral examination. In the case of a minority dissenting vote, the committee will provide a report on the reasons for the disagreement to the GSBS-N Executive Council who can vote to pass the student or make stipulations for a reexamination. In this case, or if the student fails the initial candidacy examination, a reexamination must take place within 3 months of the first examination.